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The Eradication of Glanders in Man and Animals.

By Major-General Sir JOHN MOORE, K.C.M.G., C.B., F.R.C.V.S.

(Read before the Royal Society of Medicine on October 24th, 1922.)

I take it as a great compliment to the veterinary profession to be asked to deliver a paper on the opening day of the Section of Medicine of this Society for the year 1922-23. To my mind it marks a milestone on the road of veterinary progress, but, after all, when we seriously consider disease in all its aspects, and in particular the ills of animal origin to which human flesh is heir, the desirability, and indeed the necessity, for the close touch of medical and veterinary science and the co-operation of members of both professions in control of disease must be accepted. I do not wish it to be inferred that medical and veterinary thought and knowledge hitherto have run in different channels, or that the sister professions—if I may so term them—exist on radically different or divergent planes. Far from it. But I do say that the younger sister can and does learn a good deal from the experienced elder sister and *vice versa*, and that common interests, which are so apparent, make the association a perfectly natural one. If success in public welfare is to be achieved, the same broad road must be traversed, and though the by-ways and collateral avenues have to be explored by the two professions respectively, the same goal is before us.

When I was approached to contribute a paper, and to which purpose I gladly assented, I marked down many points in the common field of research, but their total was so great in number that their consideration during one short afternoon's lecture was quite beyond any useful object. I decided to contract the common field, to deal with at most two diseases specifically, and to leave plenty of room for discussion. I have selected glanders and anthrax, almost the two oldest diseases known to the veterinary profession. Though old, they are by no means threadbare, and I hope to clothe them in colours which reflect the progress and the sterling good work which at all events have been shown in veterinary science and policy.

In olden days, before the light of hygiene, sanitary science, and research troubled the microbial world, glanders provided our stock terror. It was our Napoleon, which scourged armies and other studs of horses in close communion. It has now been bereft of any terror or danger to man or animals, for to continue in popular phraseology, our Napoleonic enemy has been killed by that staff college graduate MALLEIN. In no instance can the progress of veterinary science be so clearly demonstrated than by the downfall and almost total eclipse in this country of this at one time serious disease. I have thrown on the screen a statement taken from the Board of Agriculture Returns which show the gradual decline of incidence in recent years. Last year only three outbreaks were recorded, this year, up to date, only two, and we may take it that practically it stands at the door of eradication from the British Isles. Two other factors responsible for its eradication are, firstly, the diminution and in some instances the total abolition of large industrial studs of horses in cities, and particularly in London and the surrounding counties, where about 90 per cent. of the disease occurred; and, secondly, the more complete Glanders or Farcy Order of 1907, with its extended provisions issued in 1920 for compensation and the application of the Mallein Test.

In the scientific control of disease the more perfect our knowledge of the life history of the causal agent and of the subtle tactics it pursues, the readier and easier become our measures of combat, whether such are by State legislation or by individual action. Relatively, glanders is easy of suppression. The *Bacillus mallei* possesses only slight resistance to external agency, physical and chemical, and it forms no spore. It is killed by exposure to a temperature of 130°F. in ten minutes or to 212°F. in two minutes. Cold does not affect its vitality, corrosive sublimate solution, 1 in 5,000, a 5 per cent. solution of carbolic acid, 1 per cent. solution of permanganate of potash and other ordinary disinfectant solutions destroy it in five minutes. Discharge from the nose in thick layers will remain virulent in dry air and sunshine for two months, in moderate layers four to fifteen days, and in thin layers three days. In water it remains virulent from 15 to 20 days; and it resists putrefaction from 14 to 24 days. In closed stables it may remain virulent for three to four months, but it seldom retains vitality outside the animal body over six weeks. It will not grow in infusions of hay or straw or on horse manure: it is destroyed in urine in 40 hours or less, and it may safely be concluded that it has no saprophytic existence. Practically speaking, it is peculiar to horses, mules and donkeys. It is transmissible to man by inoculation. Cattle, chickens mice and rats are immune. Pigs under ordinary circumstances are immune. Goats, sheep, cats and

dogs have contracted the disease, but occurrence in them is uncommon. Guinea-pigs and rabbits are susceptible by inoculation, and the former is made use of for diagnostic purposes. The above knowledge is useful to us in framing our plans of campaign against the disease. The real combative agent in the eradication of glanders, however, is the substance mallein. No veterinary expert would ever dream of handling an outbreak without its aid. It seems a cruel fate that the Russian Veterinary Surgeon KALNING, who discovered it, should have lost his life from glanders. By its agency in a diagnostic test elimination of diseased animals, at a period before danger of communication is probable, becomes a matter of supreme simplicity: we are in a strong position accordingly. To illustrate the comparative ease in handling outbreaks, the sense of security, the reduction in loss of animal life and the consequent saving to the public, and the minimum amount of inconvenience imposed on owners and others which this practical diagnostic agent carries, I will quote two instances in my personal experience, the one in pre-mallein days and the other of recent date under the trying and difficult circumstances of war. In August, 1892, in a battery of Royal Field Artillery (110 horses and 19 grass mules) at Cawnpore, in India, a serious outbreak of glanders occurred. The Veterinary Officer in charge of the station had been absent in Lushai-land for seven weeks, and from force of circumstances the veterinary care of the unit devolved on the Commanding Officer of the Battery and his subordinate Farrier Sergeant, both of whom were in absolute ignorance of glanders. On the return of the Veterinary Officer two virulent cases were discovered in the Veterinary Hospital, and inspection of the Battery revealed four more clinical cases—not a very promising beginning. According to rule the Battery was sent into isolation, which was carried out in a grove of mango trees one and a half miles distant. So far as my memory serves me, over thirty animals were destroyed altogether, including those showing suspicious symptoms or unthrifty look. The outbreak covered a period of several months, during which time the Battery could take no part in combined training. Successful issue resolved itself into isolation up to and over the accepted period of incubation and strict periodical inspection of every animal for clinical signs of the disease, the unit not being declared free until four months after the last case. The whole procedure was laborious, inconvenient and vexatious. Mallein had only been discovered the year previous, but its use had not been extended to India. How different from present-day handling of the disease! —and no more fitting example can be furnished than by our experience during the late Great War. I speak for the British Expeditionary Force in France and Flanders only. In that theatre, approximately 750,000 horses and mules took part, and in spite of the vast movements of animals, the commingling with Allied Forces, and the occupation of enemy positions of doubtful nature, our Force was kept relatively free, thanks to the use of mallein and a highly efficient Veterinary Service. I hesitate to remark in this strain, having had the honour to be D.V.S. of the Force for the whole period of the war, but I think it is only right that the achievement of those officers and men who had the actual handling of the situation should be known publicly. The procedure of control briefly was as follows:—Every animal on arrival in France from overseas was subjected to the Mallein Test at the Base Remount Depots. Similarly on evacuation from the Front to a Reception Veterinary Hospital on Lines of Communication animals were tested, and again on discharge to a Remount Depot after cure. Remount Depots and Veterinary Hospitals were thus kept free. Animals were also subjected to the test on being cast and sold to the French public. In the event of a reaction to the test occurring, whether in an animal evacuated from the Front or otherwise, the fact was referred by telegram to the Formation concerned, and all animals of the unit to which the animal belonged were tested. Reactors were destroyed. Doubtful reactors were retested in three weeks' time. Frequently two or more tests of a unit were required at intervals of three weeks before entire freedom was assured. In the autumn of 1915 the frequent reactions encountered in animals evacuated from the Front indicated a certain menace, and it was decided to test the whole Force. This was done during the winter, about 300,000 animals being subjected to the test. The disease was cleared out, and even though we were again threatened on the arrival of the Portuguese Expeditionary Force in the spring of 1917, and again on the return of a Division from Italy, we had no more trouble. The total numbers of animals affected (reactors) were 85 in 1917 and 36 in 1918.

At first the method of testing employed was the ordinary subcutaneous cervical, which consists of a local and a thermal reaction in affected animals, the local reaction being a firm painful swelling at the seat of inoculation within twenty-four hours, increasing in size to thirty-six hours, and persisting until the third or fourth day after inoculation, and measuring five to ten inches in diameter in undoubted cases; while the thermal reaction is shown by a rise of temperature of 2° or more by the fifteenth hour. The stereotyped system of temperature registration before and afterwards at the ninth, twelfth and fifteenth hour under the cervical method proving an impossible burden in war, where large numbers of animals necessarily are dealt with, and, moreover, the usual practice of laying animals out of work for forty-eight hours being an inconvenient feature, the system known as the Intradermo-palpebral method was adopted. The advantage claimed over the older cervical method was that it is a more suitable field test, that no temperature registration is necessary, and that the reaction—consisting of œdema of the lower eyelid and profuse muco-purulent tears—is more readily determined and with less doubt than by the cervical method. And it was subsequently found that animals could carry out their ordinary duty, if necessary, while under the test, a fact which

removed any possible objection on the part of Commanding Officers of units. Personally, I have no doubt in my mind as to the superiority of the test as an eliminator of glanders. In a doubtful case at the twelfth, or even twenty-fourth, hour, the subcutaneous cervical method can always be applied as a control. The cost per dose is very considerably less, representing a large saving when armies have to be considered. Over two million doses were used in France alone.

Thus has an old enemy in war been defeated. The presence of glanders in a military unit, even in war, is now looked upon as somewhat of a reproach, and if encountered it only serves to illustrate prowess in suppression by means of mallein. Its extinction in civil communities in Great Britain is within measurable distance, and the Board of Agriculture, with Sir Stewart Stockman and his staff, have reason to be proud of the labours of their hand. Once clear, the application of the Mallein Test on importation of horses, mules and asses will maintain freedom.

Now for the human side of Glanders. Unfortunately, a considerable number of lives have been lost from this loathsome disease, the cure of which is extremely rare. Victims have been mostly persons immediately associated with horses, and regrettable accidental infection has frequently occurred in laboratory workers. No less than seven European scientists working on the disease lost their lives during the years 1891-92. One of the discoverers of Mallein died from it, and a well-known member of our College, who contracted it, after a long and terrible experience was, I am pleased to relate, cured of the disease.

Comparative figures of incidence between men and animals are not available, but HUNTING, in his book on the disease, mentions that :—

"During the years immediately following 1899, when the spread of glanders among horses continued and increased, deaths among men began to attract some notice. It was shown that whereas the Registrar-General returned about six or seven fatal cases per annum, a larger number were probably never recognised, but registered for burial as typhoid, influenza, rheumatic fever or blood poisoning."

He adds that :—

"There is very little doubt that ten times as many human deaths from glanders have occurred as have been accredited to that cause by the Registrar-General."

At the same time it is certain that man shows a strong relative immunity.

In the light of veterinary experience the application of the Mallein Test to human beings should make diagnosis positive. I know of one instance where this was tried, a positive reaction resulting.

However, the eradication of the disease from horses, asses and mules will carry with it a corresponding extinction in human practice, for infection in man is by direct inoculation, though HUNTING from analogy to animals favours infection by ingestion also.

TABLE.—GLANDERS (INCLUDING FARCY).—NUMBER of COUNTIES IN GREAT BRITAIN from which the Disease was reported by Inspectors of the Local Authorities, Number of OUTBREAKS reported, and Number of HORSES returned as ATTACKED, 1874-1920.

Years	Counties	Outbreaks	Horses Attacked	Years (*cont.*)	Counties	Outbreaks	Horses Attacked
1874	44	522	636	1899	35	853	1,472
1875	46	773	1,117	1900	29	1,119	1,858
1876	51	741	1,100	1901	43	1,347	2,370
1877	40	518	758	1902	31	1,155	2,040
1878	45	585	888	1903	33	1,456	2,499
1879	52	936	1,367	1904	39	1,529	2,658
1880	37	1,459	2,110	1905	35	1,214	2,068
1881	35	1,012	1,720	1906	35	1,066	2,012
1882	33	850	1,389	1907	33	854	1,921
1883	35	753	1,244	1908	30	789	2,433*
1884	34	713	1,123	1909	28	533	1,753*
1885	25	637	946	1910	28	351	1,014*
1886	27	776	1,114	1911	19	209	504*
1887	25	1,003	1,482	1912	26	172	315*
1888	30	1,007	1,581	1913	18	162	438*
1889	25	1,262	2,246	1914	19	97	286*
1890	24	959	1,808	1915	12	49	85*
1891	28	1,351	2,435	1916	14	46	117*
1892	34	1,657	3,001	1917	14	25	63*
1893	40	1,381	2,133	1918	12	34	98*
1894	33	965	1,437	1919	13	25	61*
1895	36	964	1,594	1920	8	15	22*
1896	31	817	1,294	1921	—	3	—
1897	31	900	1,629	1922	—	2	—
1898	30	748	1,385				

* Includes horses that reacted to the Mallein Test, and on post mortem examination showed Glanders lesions.

Veterinary Prospects in South America.

It is interesting to learn from Dr. H. K. Wright, of Philadelphia, that conditions in South America, with reference to livestock, are almost identical with conditions that prevailed in western United States a few years ago, says the *Journal of the American Veterinary Medical Association.* Practically all animals are on range and no attempt is made to secure a veterinarian's services for individual animals. Veterinarians are seldom called, except in connection with outbreaks of dangerous, transmissible diseases.

Dr. Wright has just returned to Philadelphia after a sojourn of over 15 months in the Argentine, Chile and Peru. He is of the opinion that present prospects for a veterinary practitioner in South America are not very alluring. It would undoubtedly be a very uphill fight to establish a general practice there.

In the first place, a man would have to speak the language of the country very well and a long residence would be necessary for him to become thoroughly acquainted with the customs of the people, their methods of conducting their affairs, etc.

If an opportunity is presented for a veterinarian to take up special work in South America, *i.e.*, for one of the governments, an individual livestock owner, a group of owners, or other interests, a definite contract should be entered into, including arrangements for transportation to the U.S.A. upon expiration of the contract.

Genital Organs of the Dog.

By B. Gorton, M.R.C.V.S., London.

Scrotum.—The scrotum is placed more posteriorly in the dog than in the horse, but not so near the anus as in the boar. It is in line with the posterior borders of the thighs. Its covering of skin is thick, pigmented, and bears a few fine hairs. It exhibits an oblique groove which indicates the separation between the two testicles. The obliquity of this groove is due to the fact that the testicles do not lie fairly side by side, the right being more forward than the left. In the groove the faint raphé can be made out.

The wall of the scrotum can be divided into four coats. The most superficial is the skin, which forms one pouch for the two testicles. Next the skin is the dartos, a fibrous coat which forms two cavities, one for each testis, the partition between the two being known as the septum scroti. The next coat is composed of fascia which can be separated into layers. This fascia is known as the scrotal fascia, and the layers can be identified as corresponding to the external oblique, internal oblique, and transverse muscles of the abdomen. The scrotal fascia forms a complete sac for each compartment of the scrotum. Each sac is pear-shaped, the narrow end being attached around the margin of the external opening of the inguinal canal. Along the dorsal border of the narrow neck of the sac there is a narrow muscle, the external cremaster muscle. This is continuous in the inguinal region with the internal oblique muscle, and posteriorly it bifurcates, the two slips thus formed losing themselves in the scrotal fascia. The fourth coat of the scrotum is serous, being the parietal layer of the tunica vaginalis. It is intimately attached to the deep surface of the scrotal fascia.

Tunica Vaginalis.—This is a pouch-like dilatation of the peritoneum, which runs through the inguinal canal to reach the scrotum, and which also invests the testicle and its appendages. Like serous membranes in general it has a parietal layer and a visceral layer. The former lines the scrotum as mentioned above. The visceral layer forms a covering to the testicle, epididymis and spermatic cord. The two layers are continuous with each other posteriorly and dorsally, the reflection forming a kind of mesentery which keeps the testicle in position in the scrotum. In the embryo, before the testicle has descended this pouch of peritoneum is known as the processus vaginalis.

Testicles.—These are oval in shape, slightly flattened on their opposed surfaces. The two weigh together about an ounce in a medium-sized dog, and are a little over an inch long. The left is generally a shade larger than the right. Each is lodged in one of the divisions of the scrotum and has its long axis directed backwards and upwards. The dorsal border, which is nearly straight, has the epididymis attached to it. The posterior extremity is firmly fixed to the corresponding part of the wall of the scrotum by the reflection of the tunica vaginalis. The surface of the testicle is smooth, being covered by the visceral layer of the tunica vaginalis. Through this the proper coat of the testicle, the tunica albuginea, is seen. This is a white, fibrous membrane which sends septa into the substance of the gland, dividing it into lobules. These septa converge towards the dorsal part of the testicle to form a mass of fibrous tissue, the mediastinum testis. The parenchyma of the lobules is granular in appearance and yellowish-pink in colour, consisting of masses of convoluted seminiferous tubules.

Epididymis.—The epididymis is large and well-developed, attached to the dorsal border of the testicle, and overlapping its lateral surface to form a digital fossa. The anterior extremity is enlarged, and is known as the head. It overhangs the anterior end of the testicle to which it is firmly attached. The posterior extremity, or tail, is smaller than the head. It is more loosely attached to the posterior extremity of the testicle and also to the wall of the scrotum by means of the fold forming the junction of the visceral and parietal layers of the tunica vaginalis. The tail of the epididymis is continued as the vas deferens.

Vas Deferens.—The excretary duct of the testicle passes from the tail of the epididymis through the inguinal canal to join the urethra just within the pelvic cavity. From its origin it runs forwards on the medial aspect of the dorsal border of the testicle and comes into relationship with the spermatic artery and vein just above the anterior end of the testicle, to help form the spermatic cord. At the internal abdominal ring the vas leaves the spermatic artery and passes backwards to run into the urethra below the prostate gland in close company with its fellow. The vas is 7-8in. long, the greater part extending between the lower opening of the canal and the testicle.

Spermatic Cord.—This composite structure is long in the dog owing to the backward displacement of the testicle. It is made up of the vas, the spermatic artery and vein, nerves and lymphatics. These are covered by the visceral layer of the tunica vaginalis. The vas is accommodated in a special fold given off from the main sheath on its medial aspect near the posterior edge. The vein is coiled in such a fashion as to form a considerable venous mass in the anterior edge of the cord, and the artery is embedded in this plexus. The nerves and lymphatics have an intermediate position.

Inguinal Canal.—This canal is the opening in the abdominal wall through which the testicle descends and which accommodates the spermatic cord. Its direction is oblique, being outwards and forwards from its subcutaneous opening. It chiefly lies between the external and internal oblique muscles of the abdomen. In section it is flattened from above to below, its dorsal wall being formed by the internal oblique muscle and the transversalis fascia. The ventral wall is formed by the aponeurosis of the external oblique. The subcutaneous opening, the external abdominal ring, is an oval opening in the tendon of the external oblique in front of Poupart's

ligament. The abdominal opening, the internal abdominal ring, is an opening in the fascia of the transverse muscle. The canal is a little over an inch long, and is lined by the peritoneal connection between the tunica vaginalis and the abdominal peritoneum. The external pudic artery and vein are found at the inner aspect of the external opening of the canal, and this fact must be borne in mind during operations in this region.

PROSTATE.—This gland is yellowish in colour, rounded in shape, and completely invests the first part of the urethra just within the pelvis. If the bladder is full its weight pulls the urethra forwards, and then the prostate is almost entirely abdominal in position. The gland is frequently enlarged in adult dogs, and this may interfere with urination and even with defæcation.

URETHRA.—The urethra is common to both the urinary tract and the genital tract: it extends from the neck of the bladder and terminates upon the extremity of the penis. It may be divided into two parts, the pelvic portion and the extra-pelvic portion. The pelvic portion is again divided into two, the prostatic and the membranous parts. The former of these two is surrounded by the prostate gland and is quite short and of small diameter. On the dorsal wall there is seen the continuation of the urethral crest, which begins at the neck of the bladder, and the colliculus seminalis, an eminence upon which are the two openings of the vasa deferentia, and numerous ducts from the prostate. The membranous urethra terminates at the ischial arch, where it is continued by the extra-pelvic portion. It is surrounded by the urethral muscle (Wilson's) which is continued on to the prostate gland. The lumen of this part of the urethra is considerable. The extra-pelvic urethra is contained in the penis, with which it will be described.

PENIS.—The length of the penis from the ischial arch to the free extremity (in a state of quiescence) is five to six inches in an animal of medium size. From its origin it extends between the thighs, where it is crossed very obliquely by the spermatic cords, to end in the umbilical region in a special fold or sheath of skin, the prepuce.

The penis is divisible into three parts, the root, body and glans. The body is made up of three elongated masses of erectile tissue, two above and one below. The upper pair are the corpora cavernosa penis. These are bound together in a sheath of white fibrous tissue, the tunica albuginea penis, which also sends a septum between them. Posteriorly the corpora cavernosa diverge from one another to become attached to the borders of the ischial bones to form the root of the penis, or the crura penis. Their upper surface is related to the abdominal wall and is called the dorsum. Below they together form a groove in which lies the urethra. Anteriorly they are continued by a bone, the os penis. This bone may be looked upon as an ossification of these bodies. The bone is about three inches long, and gradually tapers from its broadened posterior end. The anterior extremity of the bone bears a twisted fibrous or cartilaginous prolongation. The ventral border is occupied by a deep groove which accommodates the urethra.

The corpus cavernosum urethræ is the erectile tissue surrounding the urethral tube. At the ischial arch it forms a dilatation, the bulbus urethræ, and lies between the two crura penis. In the body of the penis it lies in the groove on the ventral surface.

The glans penis in the dog is long and cylindrical, but somewhat constricted at its middle. It surrounds the os penis. The anterior part is pointed, forming the free end of the penis. The urethra opens by a slit-like orifice upon its extremity. The part behind the constriction is in the form of a considerable swelling, the bulbus glandis, which consists of a mass of erectile tissue placed on the dorsal aspect of the os penis at its hinder end.

Muscles of the penis.—Each crus of the penis is partly surrounded by a muscle, the ischio-cavernosus, which is attached to the tuber-ischii. The bulbus urethræ is covered by a well-developed muscle, the bulbo-cavernosus, which is continuous with the muscle of Wilson (urethral). The retractor penis is a very pale and slender muscle which is blended with the sphincter ani above, and passes along the urethral surface of the penis to end in the region of the glans. The ischio-urethral muscles are two small muscles which arise on the two tuberosities of the ischial bones, and join on the dorsal aspect of the urethra at the ischial arch. They compress the dorsal veins.

Arteries, veins and nerves. These run along the dorsal border of the penis.—The two veins begin at the bulbus glandis, run together to the ischial arch, which they turn round to join the internal pudic veins. The arteries are lateral to the veins, and are the continuations of the internal pudic arteries. The nerves are lateral to the arteries and are branches of the pudic nerves.

Prepuce.—The prepuce is a tubular sheath of skin which completely surrounds the glans of the penis. Anteriorly it presents a slit-like opening which puts the cavity in which the glans lies into communication with the exterior. The external layer of the prepuce is made up of ordinary skin. The inner layer resembles mucous membrane and shows lines of elevations of lymphoid tissue. This layer is reflected on to the glans penis and covers this to become continuous with the urethral mucous membrane at the urethral orifice.

The prepuce is provided with a protractor muscle, which is found as a flat delicate band immediately under the skin in the umbilical region. It arises from the abdominal aponeurosis in this region and passes backwards to form a loop around the orifice of the prepuce.

In common with the carnivora in general the dog possesses no vesiculæ seminales. Nor are Cowper's glands present. The uterus masculinus is at the best only a small saccule.

"Testimonies of Healing," from our Animals.

(With apologies to "Christian Science.")

We of the lower animals have scarcely felt it fair
That of this "Christian Science" we have never had a share;
But now this slur is over, for we've learnt how to prove
This only "true Religion" can all our ills remove.

The Profession Veterinary, we boldly now you warn,
That all your foolish "treatment" we look upon with scorn.
For we have studied carefully the Works of Mrs. Eddy,
And to counteract your methods, we all of us are ready.

But if you are reluctant our statements to believe,
"Testimonies of Healing" cannot the world deceive.
We quote from countless thousands and from species untold,
To show you how the "Science" its wonders doth unfold.

Each picture tells a story of suffering and pain,
But thanks to Mrs. Eddy, this won't occur again.
Each story is authentic, and every word is true,
For they're investigated before they're told to you.

Testimony of a Lame Horse.

For three long years I suffered great pain within my hock,
Which man termed a "bone spavin," and seemed the joint to lock.
They burnt it with an iron, fearing some anchylosis;
The only change that this produced was localised necrosis.

The Surgeon told my owner he could not make a cure,
And that unless I could be shot great pain I must endure.
A friend, just at this moment, lent me a little book,
Prepared by Mrs. Eddy, at which I had a look.

I had not read ten pages of this great work of "Truth,"
When looking at my spavined hock, I found it sound forsooth.
The cure, it was quite perfect—all marks it did efface,
And on that self-same afternoon I ran and *won* a race.

Now, to this Noble Lady my thanks I do out-pour,
For showing how such suffering I need endure no more.
So to all equine sufferers the best advice I give,
Read "Science and Health, with a Key to the Scriptures," and live.

Testimony of a Cow.

I am a cow, just kept for milk, and living in a byre,
And for five years from tubercle with ease could not respire.
My lungs, 'twas said, were solid, calcified—so it seemed,
The milk I gave so readily with T.B. simply teamed.

I could not eat, I could not sleep, I seemed to live to cough;
My owner was in constant dread he'd have to put me off.
But just when things appeared their worst, there came a "Scientist,"
Who said I was not ill at all, nor did disease exist.

He was a "true Practitioner" of that great "Christian Science,"
And as he gently stroked my back, I placed on him reliance.
Before a week was over my lungs were like a sponge,
And from sheer joy of living I'd jump about and plunge.

Now in true Bovine manner, I offer thanks profound,
To One who in Her Goodness such theories can propound.
I know that in the future I shall feel no more pain,
Not even if a Butcher should open up my vein.

Testimony of a Dog.

For quite a longish term of years my life tranquil had been,
Till suddenly upon my skin some pustules deep were seen.
That man they called the Veterinary termed it a Mange Follicular,
Strongly warning my Mistress not to touch me, if particular.

The disease rapidly increased to that bad type called "squamous";
It covered all my body, head and jaw, right to the ramus.
The Itch it had become intense, with scratchings and with bitings,
Till one fine day I saw a book called "Miscellaneous Writings."

This soon did open both mine eyes, which were half closed through mange,
And on the aspect of my life produced a sudden change.
The Parasites, which had been found, I learnt had not been there,
And, thanks to Mrs. Eddy, hope soon replaced despair.

So after half an hour or so the pustules were no more,
And all my skin was sleek and white, which formerly was sore.
So now, each day, from morn till eve, your praises do I "yap."
My dearest Mrs. Eddy, I'm a happy little chap.

Finale.

We hope these few examples will to all demonstrate
That we can face so-called disease with neither fear nor hate.
So if at any time to come men try to cause us pain,
Not one of us will feel it, but can treat it with disdain.

The gist of all the teachings which this has brought to light
Is that no evil can exist—but only good and right.
What we had thought were ills and pains, and blamed a fate unkind,
Has merely been a mental thought impressed upon the mind.

What we once thought was Glanders, or chronic Nasal Gleet,
Must just have been a fancy found of "The man in the street."
The signs we took for Rabies, and said a dog was mad,
Must have been joyful capers, because he was so glad.

We recommend all doctors their "learned" books to burn,
To throw away their instruments, and some good trade to learn.
Their "walk in life is over," their quackery found out,
All due to Mrs. Eddy, to whom all praise devout.

D. S. Rabagliati.

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18th November, 1922.

DANGEROUS DRUGS REGULATIONS.

In response to numerous requests from practitioners, we again publish the following Regulations made in pursuance of Section 7 of the Dangerous Drugs Act, 1920 :—

APPLICATION.

1. The drugs to which these Regulations apply are morphine, cocaine, ecgonine, and diamorphine (commonly known as heroin), and their respective salts, and medicinal opium, and any preparation, admixture, extract or other substance containing not less than one-fifth per cent. of morphine or one-tenth per cent. of cocaine, ecgonine or diamorphine.

For the purpose of the foregoing provision, the percentage in the case of morphine shall be calculated as in respect of anhydrous morphine.

SALE AND DISTRIBUTION.

3. No person shall supply or procure or offer to supply or procure any of the drugs to or for any person whether in the United Kingdom or elsewhere or shall advertise any of the drugs for sale—

(*a*) unless he is licensed by the Secretary of State or is authorised by these Regulations or by any authority granted by the Secretary of State to supply the drug or unless he is licensed by the Secretary of State to import or export the drug or unless he is licensed or otherwise authorised to manufacture the drug or

(*b*) otherwise than in accordance with the terms and conditions of such licence or authority.

4. Except when the drugs are lawfully dispensed in pursuance of a prescription given by a duly qualified medical practitioner, registered dentist or registered veterinary surgeon, or are supplied by a duly qualified medical practitioner or registered veterinary surgeon who dispenses his own medicines, in accordance with the conditions hereinafter specified, no person shall supply or procure or offer to supply or procure any of the drugs to or for any person in the United Kingdom who is not licensed or otherwise authorised to be in possession of the drug nor to any person so licensed or authorised except in accordance with the terms and conditions of such licence or authority.

Provided that administration of the drugs by or under the direct personal supervision of a duly qualified medical practitioner, or by or under the direct personal supervision of a registered dentist in dental treatment, or by or under the direct personal supervision of a registered veterinary surgeon in the treatment of any animal, shall not be deemed to be supplying the drug within the meaning of this and the following Regulations.

CONDITIONS AS TO THE GIVING AND DISPENSING OF PRESCRIPTIONS.

5. A prescription for the supply of the drugs must comply with the following conditions :—

The prescription must be in writing, must be dated and signed by the medical practitioner, registered dentist or registered veterinary surgeon as the case may be, with his full name and address, and must specify the name and address of the person for whose use the prescription is given, and the total amount of the drug to be supplied on the prescription.

A prescription shall only be given by a registered veterinary surgeon for the purposes of treatment of animals and shall be marked "For animal treatment only."

The Secretary of State may prescribe and issue a form hereinafter referred to as the "official form" for use in giving prescriptions for the drugs, and in that case a prescription for any of the drugs shall only be given on an official form or in the case of prescriptions issued for national health insurance purposes on the form provided by the Insurance Committee, provided that in a case of emergency when the person giving the prescription has not the official form available, the prescription may be given without using the official form, but in that case shall be marked with the words "Official Form not available" or similar words.

A medical practitioner, registered dentist or registered veterinary surgeon shall not give any prescription for the supply of any of the drugs otherwise than in accordance with the foregoing conditions.

A medical practitioner who dispenses any medicines to which these Regulations apply shall enter particulars thereof in his day book or in the register hereinafter specified.

6. The following conditions shall be observed by persons dispensing prescriptions for the drugs :—

(*a*) If an official form is prescribed and issued by the Secretary of State in pursuance of the foregoing Regulation, a prescription for any of the drugs shall only be dispensed if the prescription is on one of those forms or on the form provided for national health insurance purposes by the Insurance Committee, or in the case of an emergency prescription given under the conditions specified in the foregoing Regulation, if the person dispensing the prescription is acquainted with the signature of the medical practitioner, registered dentist, or registered veterinary surgeon by whom the prescription purports to be given, or is acquainted with the person for whose use the prescription is given and has no reason to suppose that the prescription is not genuine ;

(*b*) the drugs shall not be supplied more than once on the same prescription : Provided that, if the prescription so directs, the drugs may be supplied on more than one but not exceeding three occasions, as directed in the prescription, at intervals to be specified in the prescription ;

(c) the prescription shall be marked with the date on which it is dispensed, and shall be retained by the person, firm, or body corporate by whom the prescription is dispensed, and (unless issued for national health insurance purposes on the form provided by the Insurance Committee) shall be kept on the premises where it is dispensed and shall be available for inspection.

POSSESSION.

7. No person shall be in possession of any of the drugs unless—

(a) he is licensed to import or export the drug, or

(b) he is licensed or otherwise authorised to manufacture or supply the drug, or

(c) he is otherwise licensed by the Secretary of State or authorised by these Regulations or by any authority granted by the Secretary of State to be in possession of the drug, or

(d) he proves that the drug was supplied for his use by a duly qualified medical practitioner or registered veterinary surgeon or on and in accordance with such a prescription as aforesaid.

MARKING OF PACKAGES OR BOTTLES.

8.—(i) No person shall supply any morphine, cocaine, ecgonine, diamorphine or their respective salts or any medicinal opium unless the package or bottle containing it is plainly marked with the amount of the drug in the package or bottle.

(ii) No person shall supply any preparation, admixture, extract, or other substance containing any of these last-mentioned drugs and coming within these Regulations unless the package or bottle is plainly marked

(a) in the case of a powder, solution, or ointment, with the total amount thereof in the package or bottle and the percentage of the drug in the powder, solution, or ointment;

(b) in the case of tablets or other articles with the amount of the drug in each article and the number of articles in the package or bottle.

This Regulation shall not apply to any preparation dispensed by a duly qualified medical practitioner or on the prescription of a duly qualified medical practitioner.

RECORDS.

9. Every person who supplies any of the drugs, shall comply with the following provisions:—

(a) he shall enter or cause to be entered in a register kept for the sole purpose all supplies of the drug purchased or otherwise obtained by him and all dealings in the drug effected by him (including sales or supplies to persons outside the United Kingdom) in the form and containing the particulars shown in Schedule I. to these Regulations;

(b) separate registers or separate parts of the register shall be used for (a) cocaine and ecgonine and substances containing them, (b) morphine and substances containing it, (c) diamorphine and substances containing it, (d) medicinal opium; provided that with the approval of the Secretary of State separate registers may be kept for separate departments of a business;

(c) he shall make the entry with respect to any of the drugs purchased or otherwise obtained by him on the day on which the drug is received and with respect to any sale or supply by him of the drug on the day on which the transaction is effected: or where that is not reasonably convenient on the day following the day on which the drug is received or the transaction is effected;

(d) where he carries on business at more than one set of premises he shall keep a separate register or registers in respect of each set of premises;

(e) he shall keep the register or registers in some part of the premises to which it relates so that it shall at all times be available for inspection in accordance with the provisions of the Act;

(f) he shall not cancel, obliterate, or alter any entry in the register or make therein any entry which is untrue in any particular. Any mistake in an entry may be corrected by a marginal note or footnote giving the correct particulars and dated;

(g) he shall furnish to the Secretary of State or to any person authorised by any order of the Secretary of State for the purpose all information in regard to any purchases by him of the drugs, all stocks held by him of the drugs, and all transactions effected by him in the drugs as may be required by the Secretary of State for the purpose of seeing that the provisions of the Act are observed.

A duly qualified medical practitioner who records in a day book particulars of any of the drugs supplied by him to any patient, together with the name and address of the patient and date of the supply, may, in lieu of keeping the register required by this Regulation of drugs sold or supplied by him, enter separately for each of the drugs in a book to be kept for the purpose references under the appropriate dates to the records in the day book of any supply of the drug. A person lawfully keeping open shop for the retaining of poisons in accordance with the provisions of the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908, may in lieu of keeping the register required by this Regulation of drugs sold or supplied by him enter separately for each of the drugs in a book to be kept for the purpose references under the appropriate dates to the entries in the "Poisons Book" or "Prescription Book" kept by him in pursuance of section 17 of the Pharmacy Act, 1868, relating to any supply of the drugs. Provided that all such books shall at all times be available for inspection in accordance with the provisions of the Act.

GENERAL AUTHORIZATIONS.

10. Any person lawfully keeping open shop for the retailing of poisons in accordance with the provisions of the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908, is hereby authorised—

(a) to manufacture at the shop in the ordinary course of his retail business any preparation, admixture or extract of any of the drugs;

(*b*) to carry on at the shop the business of retailing, dispensing or compounding the drugs, but subject always to the provisions of these Regulations.

In the event of any such person being convicted of an offence against the Act or of an offence under the enactments relating to the Customs as applied by the Act, the Secretary of State may by notice in the London, Edinburgh or Dublin Gazette withdraw the authorization aforesaid, if, in the opinion of the Secretary of State, such person cannot properly be allowed to carry on the business of manufacturing or selling or distributing, as the case may be, any such drug; provided that the Secretary of State shall, before withdrawing the authorization in the case of any such person, consult the Council of the Pharmaceutical Society of Great Britain.

11. Any duly qualified medical practitioner, or any registered dentist, or any registered veterinary surgeon or any person employed or engaged in dispensing medicines at any public hospital or other public institution being a person duly registered under the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908, or any person in charge of a laboratory for purposes of research or instruction attached to any University, University College, public hospital or other institution approved by the Secretary of State for the purpose, or any person appointed by a local authority with the approval of the Minister of Health as an analyst for the purposes of the Sale of Food and Drugs Acts, 1875 to 1907, is hereby authorised so far as is necessary for the practice of his profession or employment in such capacity to be in possession of and supply the drugs.

12. In the event of any person authorised by these Regulations or by any authority granted by the Secretary of State to manufacture, supply or be in possession of the drugs, or any of them, being convicted of any offence against the Act or of an offence under the enactments relating to the Customs as applied by the Act, the Secretary of State may by notice in the London, Edinburgh or Dublin Gazette withdraw the authorization in respect of such person, if, in the opinion of the Secretary of State, such person cannot properly be allowed to manufacture, supply or be in possession of any such drug.

DELIVERY TO MESSENGERS.

13. No person shall deliver any of the drugs to any person not licensed or otherwise authorised to be in possession of the drugs who purports to be sent by or on behalf of a person so licensed or authorised unless such person produces an authority in writing, signed by the person so licensed or authorised, to receive the drug on his behalf and unless the person supplying the drug is satisfied that the authority is genuine. This Regulation shall not be deemed to apply to medicines dispensed in pursuance of the foregoing Regulations.

MEANING OF "POSSESSION."

14. Any of the drugs in the order or disposition of any person shall be deemed to be in his possession.

PREPARATIONS EXEMPTED FROM THE REGULATIONS.

17. These Regulations shall not apply in respect of the preparations named in Schedule II. to these Regulations nor to any of the drugs when denatured in a manner approved by the Secretary of State. The Secretary of State may from time to time by order add any other preparation to the Schedule or remove any preparation from the Schedule.

SCHEDULE I.

(*a*) Record of { Morphine, &c. / Diamorphine (Heroin), &c. / Cocaine, &c. / Medicinal Opium } Purchased or otherwise obtained.

Date on which supply received.	Name of person, body or firm from whom obtained.	Address of person, body or firm from whom obtained.	Amount obtained.	Form in which obtained.

(*b*) Record of { Morphine, &c. / Diamorphine (Heroin), &c. / Cocaine, &c. / Medicinal Opium. } Sold or supplied.

Date on which the transaction was effected.	Name of person, body or firm to whom sold or supplied.	Address of person, body or firm to whom sold or supplied.	Authority of person, body or firm to be in possession of the drug.	Amount sold or supplied.	Form in which sold or supplied.	When sale is on a prescription specify the ingredients of the prescription

SCHEDULE II.

Cereoli Iodoformi et Morphinæ, B.P.C.
Emp. Opii, B.P., 1898.
Lin. Opii, B.P.
,, Opii Ammon., B.P.C.
Pasta Arsenicalis, B.P.C.
Pil. Hydrarg. c. Opio, B.P.C.
,, Ipecac. c. Scilla, B.P.
,, Plumbi c. Opio, B.P.
,, Digitalis et Opii Co., B.P.C.
,, Hydrarg. c. Cret. et Opii, B.P.C.
Pulv. Cretæ Aromat. c. Opio, B.P.
,, Ipecac. Co., B.P. (Dover's Powder).
,, Kino Co., B.P.
Suppos. Plumbi Co., B.P.
Tablettæ Plumbi c. Opio, B.P.C.
Ung. Gallæ c. Opio, B.P. (Gall and Opium Ointment).
,, Gallæ Co., B.P.C.

A Member's Municipal Success.

We congratulate Mr. L. W. Wynne Lloyd, M.R.C.V.S., Carnarvon, who headed the poll in the recent municipal elections with a total of 1,032 votes.

He was the only new member elected, and it says much for his popularity that, after the result was published, he was carried to the Guildhall by the enthusiastic crowd and called upon for a speech.

It is very pleasing to be able to record Mr. Wynne Lloyd's success, as so few of the members of the veterinary profession find the time or inclination to interest themselves in anything outside their daily routine.

Clinical and Case Reports.

The Editor will be glad to receive from members and others contributions to this column of reports of interesting cases

The Significance of Straining.

In the course of a recent conversation on certain ailments in animals the question was asked, "What significance do you attach to the symptom of straining?" A great diversity of opinion was expressed in the answers given. The subject in question happened to be the dog, but the discussion included the symptoms when occurring in other animals also. The view held seemed to be that straining in the dog is generally symptomatic of *obstruction* in some form or another, and the result of constipation or the swallowing of some indigestible substance, and should be treated by the administration of purgatives. We believe this view to be the one generally held, and the method of treatment to be the routine treatment of the ordinary busy practitioner. But we have always looked upon straining, especially in old patients, in a much more serious light, and considered that it should not be treated by routine methods.

We invite the views of our readers on the subject, and hope to deal with it again at a future time.

Poisoning of Poultry by Boric Acid.

By Professor G. W. Clough, D.Sc.

Some time ago a fowl was sent to me for toxicological analysis, with a covering letter stating that beef sausage, disliked by the owner on account of the taste, had been fed to some fowls, with the result that all of the fowls which had eaten the sausage were ill or dead the next morning. I found that an excessive amount of boric acid was present in the crop contents of the fowl submitted for analysis. It subsequently transpired that a butcher's assistant had accidentally used boric acid instead of rice meal in making the sausage.

There is thus no doubt that boric acid poisoning was the cause of the damage in this case.

Leaves from a Case-book.

Cases presented by Mr. Waddell, M.R.C.V.S., Castle Douglas, *to the Dumfries and Galloway V.M.A.*

An Optical Problem.

The first case is that of an eight months' old White Sealyham terrier bitch which came from Wales to a gentleman in this district. The animal commenced, soon after arrival, to show symptoms of gastritis, vomiting almost everything she ate. I saw her about a week after she came, when she was very thin, and to my astonishment I found her absolutely blind. There was no accounting for the blindness and, the owner having paid a big price for the animal, I suggested that he should write to the man from whom the bitch was purchased and tell him that the animal was no use. I, at the same time, gave a note to be enclosed.

In the meantime, I treated her for gastritis, from which she soon recovered. On my second visit three days later, however, I noticed that an abscess was forming about an inch above the left eye. The owner being very anxious that every care should be taken of the patient, I brought her home for treatment. I opened the abscess and syringed it out with a weak solution of iodine. The animal showed signs of getting her sight back next day and made a complete recovery at the end of a week. Could temporary blindness in this case be due to pressure on the optic nerve caused by the formation of this abscess?

This goes to show that one ought to be very careful in one's prognosis.

Successful Anti-Tetanic Serum Series.

A client called one day on his way to the train and said he had a very good six-year-old Clydesdale gelding which was very stiff behind and which he would like me to see. From his description of the case I concluded that it was one of tetanus, so I did not go unarmed.

I have always thought that tetanus can be cured, providing one injects sufficient anti-tetanic serum, and in this case I had a suitable subject and a suitable client, both of which are essential before proceeding with a rather expensive treatment.

On my arrival I found that the animal had torn a shoe off, the chip of the shoe having penetrated the sole, this no doubt accounting for the tetanus. I immediately had the foot cleansed and dressed with strong iodine. I next proceeded to inject four bottles of Parke, Davis & Co.'s anti-tetanic serum. This same amount the animal received for the next two days. From the third to the sixth days three bottles per day were given. On the seventh day I received a message to say that the animal was down in the box. I took slings with me, and got him safely into them. For the next three days two bottles of serum were given per day, and the animal continued to improve. For the three days following one bottle of serum per day was given. This case happened in 1920, when a good gelding was easily worth £150. My client, as you will quite understand, had a good bill to foot, but he paid it cheerfully. I have had four cases of tetanus since which have been treated in the same way and all have recovered.

One point which struck me in the serum treatment as being a good omen towards success is the intense itchiness which the horse shows. This, I have since learned, is the result of the serum and is called anaphylaxis.

A Catheter Incident.

I was called one night to see a colt foal four days' old, which was suffering from colic. The owner had already given him a dose of castor oil, as is the usual custom. The animal being in great pain, lying, rolling and getting on to his back, I gave him a small dose of chlorodyne. At times the foal would get on to his feet and make an effort to urinate but without success. Being about 16 miles from home and not having a small catheter with me I went to the neighbouring village and got a human catheter from the local doctor. This I passed and got about three

breakfastcupfuls of thick urine. This seemed to give the foal relief, so I decided to leave the catheter in until next day. However, during the night the small ring on the distal end of the catheter came off and the farmer pushed the catheter further in, so far, in fact, that I was unable to get it out again. When I visited the farm again next day the foal seemed quite alright with the exception that the urine was dripping continually. I left well alone and trusted to luck for the catheter to come away.

Two days afterwards I called and could still feel the catheter, but was unable to get it out. The foal was doing well, so I told the farmer to watch for the catheter. The foal was duly put to grass and the catheter disappeared, though where I never could find out. Still, the foal lived and did well.

This was a lesson to me always to tie the catheter with a piece of tape round the back.

A Formidable Presentation.

My fourth case is that of dystokia in a calf illustrated by the accompanying photograph.

I was called in one evening, when passing a farm, to see an Ayrshire quey which had been working to calve since morning. The waters had come away in the forenoon and two hind legs were presented (which two hind legs are not included in the photograph), but no further progress was being made.

I made an examination and could feel nothing to hinder what I considered immediate delivery. Ropes were attached to the two legs and strain applied, but all of no avail. I explored again and could feel a strong band descending forward from the inguinal region of the calf. As far forward as I could reach a hard prominence could be felt, but as the passage was very tight and gave very little room to work I could not then conclude it was the head of a calf. I tried another pull to see if it might alter the position, but without success. I pushed the hind legs back again and could now feel a head which seemed to be fixed to the hindquarters. My next move was to get the hindquarters away in order to have more room to work. This I managed to do at the pelvis. On exploring again I could feel a poll and two fore legs, so I told the farmer it was an impossible case and decided there and then to have the quey slaughtered, as she was in quite good condition. I visited the slaughterhouse and had this photograph taken, which you will all agree, I think, illustrates rather a formidable presentation with which to have to deal.

Report.

Newcastle-upon-Tyne Veterinary Report.

(*Abstract.*)

In the course of this report Mr. Thomas Parker, F.R.C.V.S., says:—

"Certain diseases necessitate one continuously bearing in mind the possibilities concerning the transmission of infection from over the seas, and for that amongst other reasons the maintenance of the home herds, either by increased production or by imports from abroad, becomes a subject of ever-increasing importance.

"During the year a Royal Commission was set up to inquire into the admission into the United Kingdom of live stock for purposes other than immediate slaughter at the ports, etc. The Report of the Commissioners has now been issued, and it contains recommendations (favourable to the unrestricted importation of Canadian cattle) likely to have, if put into operation, far-reaching effects upon the agricultural output of this country. At the invitation of the Commissoners the Veterinary Officer submitted evidence as witness on behalf of the city. The views expressed in the evidence and during cross-examination were quite in accord with the ultimate findings of the Royal Commissioners as set out in their report.

"Under the next heading, as distinguished from the others, all the subjects dealt with come either directly or indirectly within the scope of food inspection. Perhaps the most important is that concerning meat inspection. In some parts of the country this subject has received but little attention, whilst in others—particularly Edinburgh and Glasgow, where the whole of the slaughtering is carried out in modern abattoirs—it has within recent years, by reason of the conditions of application, been firmly established upon a scientific basis. The great lack of uniformity existing throughout the country in this direction has for years been recognised to exist. In June, 1920, a Departmental Committee was appointed by the Minister of Health to consider and report on the legislative and administrative measures necessary to secure adequate protection for the health of the people in connection with the slaughter of animals and distribution of meat for human consumption in England and Wales. The Report was issued in August, 1921, and contains recommendations which if carried into effect will bring about more cleanly methods in the handling and transportation of meat, the protection of meat traders against the risks of animals being found on slaughter to be diseased, and raise the standard of meat inspection throughout the country besides securing a greater degree of uniformity than has existed hitherto.

"The Veterinary Officer (with the approval of the Sanitary Committee) served as a member of the Departmental Committee at the Ministry of Health, Whitehall, in addition to being responsible (along with Dr. Howarth, Medical Officer, City of London, and Dr. MacFadden, Ministry of Health, also members of the Committee), for the preparation of a 'Memorandum on a System and Standard of Meat Inspection' included in the report as an appendix.

DISEASES OF ANIMALS ACTS, 1894-1914.

"During the year under report seven outbreaks of contagious disease (as defined by the Acts) have occurred amongst the animals within the city, as compared with seven the previous year.

"It may be stated here that the most serious visitation of foot-and-mouth disease that has occurred within this country during the past 35 years commenced during January of this year. Within the city alone, where the disease was as in the 1912 outbreaks first detected, no fewer than 23 separate outbreaks occurred. Although for four months without cessation pressure of work concerning this disease somewhat taxed the energies of the Veterinary Inspector and staff, difficulties have, notwithstanding other duties, been met and overcome. As the outbreaks referred to occurred during the present year, they will be dealt with in the next annual report."

A PRESSING NEED.

Dealing next with work under the Dairies, Cowsheds, and Milk Shops Orders, 1885-1899, Mr. Parker says:—

"Within the city there are 24 cowkeepers who occupy 38 cowsheds on 26 premises, and possess a total of 575 milch-cows. During the year 144 visits have been made to the cowsheds and dairies for the purpose of inspecting the buildings, etc., as to defects, sanitation and general cleanliness, etc. On several occasions it was found necessary to draw the attention of occupiers as to the cleansing of cowsheds and the exercise of greater precaution against the contamination of the milk by excremental or other foreign matter. In the East End of the city one of the older cowsheds has during the year been remodelled and brought up to a more satisfactory condition regarding light, ventilation and drainage.

"One regrets to have to again report that, owing to overcrowding of work and the pressing need for qualified veterinary assistance, it has not been found possible to devote more time to the examination of dairy cows as to diseases of the udder and particularly tuberculosis. Needless to add, such diseases are known to be a real menace to the health of the people, particularly that of young children. Of all foodstuffs, milk, in the matter of inspection at the source of production, is perhaps the most important and at the same time one of the most neglected. When one takes into account the large number of cows found on slaughter (meat inspection) affected with advanced tuberculosis, including many cases presenting evidence of the disease within the udder, one is convinced that not until the supervision of milk intended for human consumption is universally applied and includes a regular and systematic inspection of the animals producing it will much of the suffering and many deaths occasioned by tuberculosis be prevented. Perhaps it is not sufficiently well known that a large percentage of children that are diseased are suffering from no other than 'bovine tuberculosis.' Year by year enormous sums of money are contributed and much time and energy spent for the purpose of improving the methods of treatment against the disease. Much valuable work has already been done and much remains to be done in this direction; nevertheless, it is unfortunate that many authorities responsible for the control and prevention of tuberculosis pay little or no attention to the source of the disease; and thus fail to observe one of the most vital principles of preventive medicine."

Association Reports.

National Veterinary Medical Association.

QUARTERLY MEETING OF COUNCIL.

A quarterly meeting of Council of the National Veterinary Medical Association of Great Britain and Ireland, Ltd., was held on the 7th October, 1922, at 10 Red Lion Square, W.C.1.

Present: Mr. H. Sumner (President) in the chair, Dr. O. Charnock Bradley, Messrs. G. H. Livesey, P. J. Simpson, J. W. McIntosh, W. D. Rees, J. Willett, F. W. Willett, S. H. Slocock, J. Clarkson, J. F. Craig, F. L. Gooch, A. Gofton, S. H. Gaiger, G. H. Wooldridge, F. Hobday, Sir L. J. Blenkinsop, and the Secretary.

Letters of apology for absence were received from: Messrs. B. De Vine, A. W. Noel Pillers, J. Ewing Johnstone, R. G. Linton, J. S. Lloyd, G. W. Dunkin, W. Ascott, W. Scott, T. W. Inglis, R. Jones, T. W. Lepper, F. T. Harvey, C. Blackhurst, and A. Munro.

The SECRETARY read the notice convening the meeting.

The SECRETARY said that the minutes of the previous meeting were not yet completed—the first part had been published in the *Record* of the 7th October. He stated that for many reasons it was not found possible to get them published sooner. He asked for the Council's indulgence, and suggested they should be left over until the next meeting. This was agreed to.

CORRESPONDENCE.

The SECRETARY read a letter from Mr. Pillers, Secretary of the Northern Branch, regarding the constitution of the Branch Councils.

The SECRETARY said he was under the impression it had always been the idea that the governing of the branches should be left in the hands of the branches, and not to the central governing body. It was thought that the constitution of the branches, apart from the election of the President and Secretary, should be left out of the Articles of Association.

It was decided that the Secretary should write Mr. Pillers in the terms of the statement made to the meeting.

OBITUARY.

The SECRETARY reported the death of Mr. F. Garnett, a member of the Association, also a member of the Council. Death had taken place since the last Council meeting.

The CHAIRMAN: All we can do is to express our condolence and our high appreciation of the advantages which this Society received through the activities of the late Mr. Garnett.

The Secretary was instructed to convey them to Mrs. Garnett on behalf of the members of Council.

FINANCE AND ADVISORY COMMITTEE.

The SECRETARY read the following report of a meeting of the Finance and Advisory Committee:—

A meeting of the Finance and Advisory Committee was held at 10 Red Lion Square, W.C.1, on the 6th October, 1922.

Present: Mr. H. Sumner, Dr. Bradley, Col. J. W. Brittlebank, Sir S. Stockman, Messrs. Male, Clarkson, Willett, Slocock, McIntosh, the Treasurer and Secretary.

Mr. McIntosh took the chair.

The minutes of the previous meeting, having been printed, were taken as read.

Correspondence.

The Secretary read a letter from the Hide, Leather and Allied Trades Improvement Society, *re* damage to hides by warbles, requesting that a representative should be sent by the Association to meet representatives of the following bodies:—

National Federation of Hide Markets;
National Federation of Meat Traders;
R.S.P.C.A.;
Federation of British Industries;
Royal Agricultural Society;
British Medical Association;
National Federation of Dairymen's Associations;

in conference to discuss the advisability to applying for legislation for combating warble infection.

It was resolved that Mr. Male should be the representative sent by the Association to attend the Conference.

The Secretary read a letter from the Secretary of the Veterinary Section of the Royal Sanitary Institute Congress regarding a verbatim report being taken of the proceedings at Bournemouth.

It was agreed that the fees of the reporter should be paid by the Association.

Secretary's Report.

The Secretary reported that membership was practically stationary. The circulation of the *Record* had slightly increased. He asked for instructions regarding the members (365) who had not paid their subscription for the year.

It was resolved that the Secretary should write the members in question—the wording of the letter to be left to him.

The Secretary reported that Mrs. Gamble, *Record* clerk, had left, and that Miss Neat, a junior, had been appointed in her place at a salary of 25s. per week.

The Secretary's action was approved.

The Secretary also reported that Mr. Brown, Sub-Editor, had made application for an increase in his salary. He was at present in receipt of £2 per week, and asked for a further £1.

It was agreed that this should be granted until Xmas.

A resolution was moved by Col. Brittlebank, seconded by Dr. Bradley, that it was the recommendation of the Committee that a financial statement should be circulated each quarter.

The Secretary read a letter from the Ministry of Health regarding the conditions it was proposed to lay down under Section 3 of the Milk and Dairies (Amendment) Act, 1922.

It was resolved that a Committee, consisting of Col. Brittlebank, Mr. Male, Sir Stewart Stockman, and the Secretary, should be empowered to draft a reply to the Ministry.

Editorial Committee.

A meeting of the Editorial Committee was held on Thursday, 5th October, 1922, when the following members were present: Messrs. J. W. McIntosh, G. P. Male, and the Editor.

The Editor suggested that the time had arrived when the size of the editorial committee should be increased. He was of the opinion that the committee should consist of at least five or six members who should live within easy reach of the office, and should undertake to meet on one evening per week at the office, and take an active part in the actual editorial work. Further, that members should be individually responsible for certain sections of the editorial work.

It was resolved that the Council be recommended to adopt this scheme.

The following names were suggested: Messrs. McIntosh, Male, Slocock, Gorton, J. Willett, Livesey, and Sir Layton Blenkinsop.

Messrs. McIntosh and Slocock regretted their inability to accept the position.

A discussion ensued, after which the Secretary made the following announcement:—

The Secretary.—Mr. President and Gentlemen: The failure so far to get this committee working has rather forced me to say something which I was going to say at the end of the meeting. I am afraid it will be necessary for me to resign the editorship and general secretaryship in the very near future. Before doing so, or before taking any active steps, I wanted to try and arrange matters. With regard to the editorial work, it is absolutely necessary that a number of individuals should be prepared to make a small sacrifice. It is quite impossible for one man to do the work which I have been called upon to do for eighteen out of the twenty-four months during which I have acted as Editor. I feel it is my duty to very considerably reduce the amount of work I have to do by next July at the latest. If it is possible to arrange an editorial committee on the lines suggested, I would be willing to remain an ordinary member of the committee until next July if you wish. I do feel, however, that several improvements are urgently called for, and this must be done by those who have the time and ability to carry out the necessary work. It would probably be possible to have the meetings at a time convenient to most people.

It was agreed that Messrs. J. Willett, Livesey and Sir Layton Blenkinsop should be appointed to serve on the Editorial Committee, the Editor and Sub-Editor to remain ordinary members; the Committee having power to co-opt.

Special Committee *re* Colonial Appointments.

A meeting of the Special Committee appointed to consider the best means of forming a standing committee to advise intending applicants for colonial appointments was held at 10 Red Lion Square, on Thursday, 6th July, when the following members were present: Dr. O. C. Bradley, Major-Gen. Sir J. L. Blenkinsop, Prof. Gaiger, and Major Simpson.

Sir J. L. Blenkinsop was elected chairman.

The committee was of the opinion that the only satisfactory method of giving effect to the intention of the Council was by appointment of a standing committee consisting

of members of the profession possessing a knowledge of the conditions which obtain in various parts of the British Empire. Each representative to be responsible for a certain area and to undertake to keep himself informed of any alterations which may occur in the conditions which affect the veterinary profession in that area and to provide direct information to applicants.

It was decided to recommend that the following areas should first be provided for, and the Secretary was instructed to communicate with the proposed representatives with a view to ascertaining their willingness to act.

India	Prof. Gaiger.
Africa, S	Col. Watkins Pitchford.
Africa, E.	Maj.-Gen. Sir John Moore.
Africa, W.	
Fed. Malay States ...	Major Simpson.
S. America & W. Indies	Dr. Bradley.
New Zealand	
Irak	Major Leaning.
Palestine and Egypt ...	Maj.-Gen. Sir J. L. Blenkinsop.
Other Colonial Appointments...	

It was agreed that as these members had promised to act on this committee the outlook was very satisfactory.

Motion by Mr. H. P. Hogben.

The following motion was brought forward by Mr. H. P. Hogben :—

"I want to suggest that we should provide for the representation of veterinary inspectors on the National Association. There has been a National Association of Veterinary Inspectors. That Association is no longer in existence. Cannot some body be formed for them ? Just at the present moment the duties and responsibilities of veterinary inspectors are being considered by a committee. There should be some body to which we can appeal. We might have an inspectors' section."

A discussion ensued, and it was resolved that the matter brought up by Mr. Hogben be brought before the Editorial Committee, with the request that they shall report upon it at the next meeting.

Dumfries and Galloway Veterinary Medical Association.

A meeting of the above Society was held in the Crown Hotel, Castle Douglas, on May 1st, 1922.

There were present Messrs. Lindsey (Dumfries) (President), Edgar (Whithorne), Waddell (Castle Douglas), Allam (Castle Douglas), Young (Dumfries), and MacAlister, Hon. Secretary.

The minutes of the previous meeting were read and confirmed.

The Auditors' report was read and adopted.

Presidential Address.

The President, Mr. James Lindsey (Dumfries), then delivered the following address :—

Gentlemen,—I have at the outset to thank you for the honour of electing me as your President for the year. It is an honour of which I am sensitive and which I greatly appreciate, realising that this is a young Society. Before proceeding, I think it is our duty to express our gratitude to the retiring President for the able manner in which he has conducted the affairs of the Society during the past two year.

This Association is affiliated with the N.V.M.A. of Great Britain and Ireland and should be of assistance to the members. The N.V.M.A. is now an incorporated body, and every member should seize the opportunity of being enrolled, as benefits must come. It should be able to influence Parliament and public bodies. It has the sympathetic regard of a very considerable proportion of the profession and it is increasing. No doubt there will be criticism ; but better criticism than silent indifference.

One of the duties of the N.V.M.A. is to assist the maintenance of the intellectual status of the profession. The reorganization of the N.V.M.A. is one of the most important pieces of work done for the veterinary profession. It is now an incorporated body, every member should join it, and I am satisfied they will derive benefit. The increase last August was from 372 to 1,205, which was satisfactory.

Our greatest weakness at the present day is lack of unity and lack of comradeship ; some are satisfied with the irreducible minimum of knowledge, going on from day to day in the same life, satisfied that the world will last their time. The field is becoming narrower for this class, which is unprogressive and impenetrable, and the man who keeps himself aloof in selfish isolation from the work of the other members of the profession weakens the power and dignity of the profession. We should cast aside the mantle of indifference and show the world that, though we may differ about things, we can join in the works of science. Whenever and wherever we go we must be ready to educate the public to the fact that the veterinary profession is a progressive and technical one, and that its members are capable of handling conditions vitally important to the welfare of the public. We are living in a revolutionary age. Our profession has no doubt suffered owing to the displacement of the horse by mechanical transport. I do not think the tractor has injured the rural practitioner to any great extent, as it is limited to certain soils, and has not been the success we have been led to assume. I know of farmers who will have no more—and I am led to understand that firms in large towns have done away with the motor lorry on account of the heavy expenses incurred, not only in the upkeep of them, but also the wages.

This is the second year of compulsory contribution by members of the R.C.V.S., which is an addition to our Charter. It might in all probability be doubled in time thereby to recompense the members of the Council for their out-of-pocket expenses in attending the various meetings. If the members were paid their expenses I am certain it would bring forth men of education and intellect.

Compulsory pupilage is another point which should be taken up by the Council. It should be made compulsory for students to spend all their vacations with recognised capable practitioners, and I am certain

it would be to their advantage on receiving their diploma, as the farmer at once recognises any lack of practical knowledge in our young men. It is unfortunate that many of our graduates go forth so ill-equipped to deal with practical veterinary work.

In our every-day practice we cannot fail to see how much better we are treated than we used to be—we cannot all be authors, but can show our practical usefulness to our clients and thereby gain the respect of the profession to which we belong. The profession is attractive and full of interest to one who is fond of out-door life; it is a calling in which we can practice the highest ideals and at the same time earn the respect of our clients, and a living.

The testing for tuberculosis is a proposition I should like to see the N.V.M.A. take in hand. Nearly every herdsman tests his own cattle, and the sooner tuberculin is restricted to the profession the better, thereby stopping the so-called "faking," which not only renders a pecuniary loss to the purchaser, but casts a slur on the reputation of the veterinary surgeon who granted the certificate. I consider it is time the system of veterinary education was placed on a better footing—one cannot forget certain recent press controversies in which the present system was assailed. Is the present system at the colleges all that could be wished for? Has it stood the test? Recent discoveries have rendered the work so wide that it involves knowledge of highly specialised subjects, and those specialists are usually found in a large university centre—and in this respect one cannot but have in one's mind such places as Cambridge being adapted for veterinary training. This is a movement which will require grave consideration, as, no doubt, there will be difficulty in amalgamation with Universities.

The constitution of the Examining Board seems likely to develop into a burning question. In some opinions the roll of Fellows is too small to allow the Council a range from which to draw suitable men for the post. The proposition to confer powers on teachers or professors is too dangerous.

There should be a stipulated time for the appointment of examiners, and no man located at the table for twenty years without a break. The tendency of the Council to treat the examinership as a lifelong appointment tends to "cram" the students and get them acquainted with the examiner's particular "fads."

In conclusion, gentlemen, I ask you to bring forward any matter of interest that lies in your power, so that this Society may be instructive as well as affording sociality. I am convinced that the future of the profession depends upon the strength of the societies. We do not want our affairs to be directed by a few and in the course of time for these to abuse the powers which they have achieved.

I feel my task will be light as I have as my colleague our indefatigable secretary, Provost MacAlister, who has the welfare of the Society at heart.

A paper concerning some interesting cases was then read by Mr. Waddell (Castle Douglas).

Royal Sanitary Institute's Congress at Bournemouth.

Conference of Veterinary Inspectors.

(Concluded.)

Councillor G. Shoesmith, Chairman Public Health Committee, Hastings, speaking as Chairman of a Public Health Committee, outlined the deliberations of his authority in regard to the best methods of slaughtering animals, and said what they wanted was right honest guidance with the idea of securing the best results with the minimum amount of pain inflicted upon the animal. Personally, he felt that the two methods (pole-axing and humane killer) were not to be compared, but it was in the interests of all parties that a thoroughly suitable instrument should be on the market and the method commend itself to the butchers.

Reference had been made to the Jewish method, but to see an alteration in that direction meant interfering with religious ritual. He felt that they had first to put their own house in order and get the question, in which there was no religious principle involved, satisfactorily settled, and then they could say to the Jews, We have taken this step in the interests of humanitarianism, and we ask you to give up your religious ritual and come into line with us. (Hear, hear.)

The speaker then said that he hoped they would get from the butchers what they really wanted, so that commercially, professionally and industrially the most satisfactory instrument could be employed and the most satisfactory results attained in regard to a big and important industry, the slaughtering of animals for human consumption. (Applause.)

Alderman E. Aspinall, J.P., Bolton, Chairman of the Public Health Committee, commented upon so much of the time of authorities being taken up in discussing this question of the humane slaughtering of animals and declared that if there could be produced a really satisfactory instrument, he was prepared to accept it. From his experience of the pistol, the laceration and the "travelling" of the bullet, he would say that slaughtering was worse by bullet than by pole-axe, and caused unnecessary pain. He pointed out that the trade had its reputation to maintain, and they were quite as much interested as others in securing the best methods of slaughter, free as possible from unnecessary pain, and the butchers of the country were perfectly willing immediately the R.S.P.C.A. produced an instrument that would not be dangerous to the operator, and would be of greater service in effectively dealing with animals, to accept it.

Mr. E. Kilner, Chief Sanitary Inspector, Shanghai, China, spoke of the public abattoirs in the East, and asked a question as to the compensation being paid in the case of accidents.

Mr. C. G. Rabbetts, Sanitary Inspector, Mitcham, Surrey, informed the meeting that his authority was about to adopt a new bye-law with reference to the killing of smaller pigs, and the operative butchers were alarmed.

Mr. R. Barron, Veterinary Inspector, Blandford, said he favoured the use of the humane killer as absolutely safe for larger animals. As to small animals it was not so reliable. In the case of small active pigs it was difficult to keep the animal still enough. In slaughtering a sheep

himself with a Greener killer, he had known the bullet to travel down the animal's shoulder.

If the Jews were permitted to slaughter animals by cutting their throats, the Gentiles should have the same liberty. If the Jewish method was not humane, it ought to be prohibited. Religious scruples were not observed when widow burning was prohibited in India, and ought not to be considered in prohibiting a cruel method of slaughter. On the whole he thought the time was not yet ripe for making the use of the humane killer compulsory for all animals.

Following the general discussion, the PRESIDENT remarked that the opinion seemed to be that the present instrument was not wholly satisfactory and was occasionally dangerous.

In reply, Mr. PADDISON said that in opening the discussion he had already tried to meet most of the objections which gentlemen present had put forward, so he would not now take up much of their time. Mr. Body said that a slaughterman in using a Greener safeti stunned a sheep, but the bullet hit him in the foot. He would point out that it was laid down in the directions that the pistol should be pointed towards the animal's body. If this had been followed, the bullet could not have hit the slaughterman's foot. Another direction said, "never point the pistol towards yourself or anyone else." In reply to the question why accidents were more frequent in shooting the small animals than the large ones, he thought the obvious reason was that more care was employed in shooting large animals. If the same care was employed in shooting small ones, there would be no accidents. As to the complaints of laceration of the flesh and commercial loss, this was entirely a matter of using the instrument properly, and there is no commercial loss when reasonable care was exercised. On the question of danger which had been referred to by speakers, he would like to add this: That one point to consider was whether the use of the humane killer added to the risks of a slaughterman's vocation, and he maintained that experience had shown the risks were not increased. They should remember that when a humane killer was used instead of a pole-axe, the risks attached to using a pole-axe disappeared. He had known of many accidents with a pole-axe. There was also risk in using a knife on a struggling animal, especially a pig, but this risk disappeared if all the smaller animsls were stuck directly they were shot, as they were then quite motionless. His contention was supported by the attitude of the insurance companies, which, as they knew, had in no case raised their premium for accident insurance against those butchers who used humane killers.

The following papers were presented to the Conference and discussed:—

"Swine Fever, its Economic and Hygienic Importance," by E. Whitley Baker, M.R.C.V.S., Wimborne, Dorset.

"Meat Inspection," by Professor J. Share Jones, Liverpool.

"The Incidence of Anthrax," by J. O. Powley, M.R.C.V.S., Ministry of Agriculture and Fisheries, London.

[The above papers, together with the discussions thereon, receive separate publication in the *Record*.—ED.]

Supporting the points raised in his paper, Dr. SHARE JONES observed that in England there was no proper system, and he strongly favoured *ante-mortem* examination. He intimated a desire that there should go forth from that Conference a resolution on the subject, and he was fully prepared to move one to be sent to the proper quarter.

A brief discussion arose as to the wisdom of a resolution being submitted to the meeting, when so many had by that time left.

Dr. Share Jones, however, moved the following resolution:—

> That, in the opinion of this Conference, ante-mortem examination of all animals intended for slaughter as human food is absolutely essential in any comprehensive national system of meat inspection if such system is to have its greatest effect.

Mr. T. PARKER, Veterinary Inspector, Newcastle-on-Tyne, in seconding this resolution, expressed the opinion that they were perfectly safe in supporting it. He regretted that the attendance at the time did not include Medical Officers of Health and Chairmen of Sanitary Committees.

The PRESIDENT reminded the meeting that difficulties of carrying out *ante-mortem* examinations had already been suggested, and they had to bear in mind that in view of the thousands of carcases coming into this country from foreign parts, any regulations as to *ante-mortem* inspection might work unfairly upon our own people.

Mr. HAYHURST, Recording Secretary, recalled the fact that a resolution on this subject was passed at last year's Conference, emphasising a resolution passed at the Birmingham Conference in 1920.

The resolution was then put and carried without a dissentient.

The PRESIDENT then said he desired to thank all those who had prepared and read papers, and he thought that the debates had been of a very high order. (Hear, hear.)

Mr. PARKER and Mr. R. PASHLEY were associated in a motion of thanks to the President for his careful and impartial manner and the pleasant way in which he had conducted the proceedings. (Applause.)

The Future of Heavy Horses.

The set-back which the agricultural tractor has received means more for the revival of the farm horse than the advantage which the lay Press claimed would accrue to mechanical power as a result of the "passing of the horse," of which the tractor was supposed to be the advent. There are two main reasons for believing that the horse will reassert itself in the realms of agricultural practice—(1) because it is found by experience to be more economical than present mechanical means, and (2) because of a return which is being made by big firms to horse labour in preference to that of the motor for town work.

Taking the two points separately, we find that apart from breeding horses for the gelding trade the majority of farmers would rather have the horse than the tractor for doing their own work. The horse is very much cheaper to buy, it costs nothing while at work, although it must be kept while not at work, and for these two reasons alone agriculturists prefer it. But when we take the second

point and consider that most people who breed the horse do so for a dual purpose we shall discover that our equine friend is as yet firmly established in the equipment of British agriculture. Best-class heavy horses are in good demand for town work. The animals are bred, and most of them broken in, on the farm, which means that year after year the farmer-breeder not only has horses to dispose of for draught work on the roads, but he also has a regular supply of old and young animals (bearing in mind the dams and their foals) to do all his farm work.

One of the greatest factors telling against the more universal employment of the tractor upon the farm is that of depreciation. This is a very considerable item. More so than most people think. Even assuming a tractor of good make is bought which will last, say, three years, depreciation at the rate of 33⅓ per cent. per annum has to be written off, and at the end of the period (three years) the appliance is of very little value. Many farmers have suffered even worse than that. Having bought tractors at prices ranging from £200 to £500, inside a twelvemonth they are found to be unsuitable. In such cases the depreciation has not been a mere 33⅓ per cent., but more nearly 66⅔ or 75 per cent. A matter of this kind is very important for the tenant-farmer, as he is not in a position to throw away hundreds of pounds here and there on machinery which promises to do his work a little more quickly, but on which there is a serious risk to be run in its use, when he has within his reach the advantages which are offered by horse-breeding. There is very little need to enter into any discussion of these details. Facts speak for themselves, and it is well-known that many of the big firms in large cities are returning to horse labour for certain classes of work, and also that farmers prefer the horse to the tractor for farm work.

What type and breed of horse is likely to meet with a good demand in the future, both for heavy draught and farm purposes, is, however, a question on which farmers might very profitably engage themselves. As far as British breeds are concerned, there are three that matter from the point of view of town and country work. These are the Shire, the Clydesdale and the Suffolk Punch.

The Suffolk Punch used to be a very valuable animal for town work, and especially in crosses for the further purpose of producing omnibus horses for the streets of London and other towns. Seeing, however, that this type of animal is no longer in demand, we may safely dismiss from our minds any consideration which a few years ago it may have deserved. On the other hand, the Suffolk Punch has probably made more headway than any other breed during recent years as a farmer's horse. This rather presents a difficulty, inasmuch as the breed does not lend itself quite so much to the production of the kind of animal required for draught work to-day. In stating this I am not forgetting that there is still quite a reasonable demand for Suffolks and for the type of animal produced by Suffolk crosses for dray work. I have in mind not so much casual as the more substantial demand for real weight-shifting animals. The crosses between the Suffolk Punch and the heavier breeds are good enough for the production of a medium heavy type of horse. Such, however, is not the class required for brewers' drays.

Regarding the Clydesdale and the Shire, one is met with an almost similar problem in a different form. The Suffolk Punch is popular on the farm on account of its active nature: it is a hardy animal, and, being lighter, is also quicker than the heavier breeds. This probably accounts to some extent for its becoming so popular and why one finds it distributed throughout the country more widely than formerly. The assumption that for farming purposes solely the Suffolk Punch is the best horse is tantamount to admitting that the employment of Clydesdales and Shires on the farm is merely incidental to their breeding for town purposes. If that is so, the heavy horse breeder who is a farmer as well will have to be content with the speed and the activity of the heavier horse and make his arrangements accordingly. Neither the Shire nor the Clydesdale is as active as the Suffolk, yet the latter will probably not be so profitable if bred for town work. The Suffolk is selling well, however, at the present time. What has to be decided is what course should be adopted to make horse breeding coupled with horse work on the farm most profitable. Two points stand out clearly in answer to this. First, the breeder of horses for farm work should breed Suffolks. But where the main object is breeding and the farm work incidental to that the Clydesdale or the Shire should be given preference. Which of the two latter is the better is not for me to say here, as so much depends upon individual taste as well as experience. Many people swear by the Shire and others equally as strongly by the Clydesdale.

Stallions and mares of the Shire breed are more widely scattered over England than the Clydesdale, though of the latter breed there is a preponderance of males travelling when the distribution of Clydesdale mares throughout England is considered. I am leaving out of account now that part of the country generally recognised as the natural home of the Clydesdale, viz., the greater part of the North of England, Lanarkshire and Galloway. This would seem to indicate that apart from ordinary farm horses there will be considerable competition between breeders of both the heavy types. Both breeds have the best qualities to recommend them, and it is a question of locality and of taste as to which shall be chosen. We know that in certain towns the Clydesdale has preference over the Shire and vice-versa.

When all is said, the Clydesdale and Shire breeders have much to support them, and in view of what experience teaches, viz., that heavy horses are likely to be in demand for some considerable time to come, both will do well to continue their operations until something more definite occurs to deter them.

A preponderance of Clydesdale stallions would seem to indicate that this breed in particular is being mated with mares of other breeds or nondescripts, the consequence of which may be the raising of a type of heavy horse that may serve the purpose of introducing speed into the farm horse and at the same time provide an opportunity for the farmer to raise animals suitable for heavier work in the towns. There is no doubt that a good deal of this class of breeding is being done. How it will succeed is another question, and one which will deserve pondering over, especially if there should arise

any tendency towards retracting from the standard already reached by breeders of Shires and Clydesdales. The remarks concerning the crossing of Clydesdales with nondescripts and others hold equally when applied to Shires, though this breed is found to be more evenly distributed throughout the country in the proper proportion of male to female.

It is not intended to complain that there is any harm in these crossings, but merely to indicate what appears to be the general tendency. At the same time it is well to be on the alert as to any harmful practice that may creep in. There is not the least objection to Clydesdales travelling the country for crossing purposes, especially if they produce as a result good progeny, but what it may mean for the breed as such is quite another question. Consideration of the main point of what class of animal the farmer should breed brings us to a conclusion that it depends so much not only upon the demand of the market, but upon the farmer's own outlook. The big prices obtained during the war cannot be expected in normal times. The so-called slump really is no slump, but a reasonable return to standard prices, and if breeders take into consideration the reduction in the cost of feeding and of wages, any ground for genuine complaint becomes questionable.

The main conclusion is that a revival in the employment of the horse has already taken place on the farm, simply because it is found to be much more economical than the tractor. Secondly, there is a revival in the use of horses for town work which will bring a stimulus to heavy horse breeding. As this produces animals suitable for farm work either as "cast-offs" from the main breeding purpose, or while growing, the farm-power problem will for the most part be solved by a simple return to previous methods, and the prosperity of horse breeding as such is assured, thoughit may not prove to be a game at which one can get rich quick.—L. M. M. in the *Live Stock Journal*.

Be a Veterinarian !

The following, relative to American advertising views, as applied to matters veterinary, appeared in the *American Veterinary Review*:—

"Be a Veterinarian;" "We teach you by mail."

"More money is being made in the veterinary *business* now than ever before.

"Are you getting your share of this wealth ?

"Are you one of our celebrated veterinarians that own a large and well appointed hospital, have nine motor ambulances, four operating tables and one tack puller for wolf teeth ?

"If not, we can teach you by mail how to be a great veterinarian in your own town by working evenings, and your friends.

"The veterinary calling is not now such a nefarious and atrocious affair, but is very spiritual and delightful, and, besides the great skill and enviable importance which you can easily attain in your practice and county, you will have the satisfaction of making a goodly sum of money with very little labour.

"Many of our pupils are making $12,000 to $15,000 per week.

"Quite a number of our graduates are working for the State, and have several more years to work.

"If you do not get a similar position, it will not be our fault.

"You see, good locations always await our honourable and expert graduates.

"Our course is very nominal in cost, and considering what we give you for your money the tuition is very low.

"With every course of instruction we give absolutely free our large valuable Text Book of Complete Veterinary Education. This book cost us $50,000 and forty-seven and one-half years of hard labour. This is a true book. It is a great book. It is our book.

"Professor Chauveau and Nocard were our pupils. You *must* have *this* book. Remember ! It is absolutely free with the course we give you.

"Among the vast subjects we treat in our book may be mentioned as follows: 'The corpuscum of Negri bodies on the Striffin,' 'Trouble with his Water Works,' 'The use of the Plug Hat in Underfed Colic,' 'The Relation of the Stone-horse to the Nebular Hypothesis,' and 'Function of the Medulla Oblongata in Abdominal Digitalis,' etc.

"With every course of instruction we also give a case of the great and notorious Quack'mbosh's fine dental instruments. Possessing these instruments will of themselves (they are nickel-plated) entitle you to the applause and exalted honour of the whole community.

"Brace up, and make good. Our mission is a happy one for you. We come like the ancient Greeks, bearing gifts. Let us tell you how you can get into a fine business and increase your earning power.

"Remember ! By taking our full course ($13.25 now in advance) and receiving our 47x21 inch gorgeous Diploma you become not a Horse Doctor but a full-fledged Veterinarian.

"Experience not necessary.

"Be a Veterinarian and bore with a big auger. Write to-day !

"CORRESPONDENCE SCHOOL OF VETERINARY SURGERY.
"Depart. 23. A-Pirate, Blondon, Canada."

Notes and News.

The Editor will be glad to receive items of professional interest in these columns.

Surrey Cattle Disease Outbreak.

Another outbreak of foot-and-mouth disease was reported from Surrey on Monday. A fresh case occurred at Worplesdon, near Guildford, and, as a result, Guildford Market has been closed until further notice.

Serum Treatment for Swine Fever.

The Ministry of Agriculture and Fisheries announces that as from the 1st January, 1923, it will no longer be able to supply Anti-Swine-Fever Serum for the treatment of pigs in order to protect them from the infection of Swine Fever.

This material has hitherto been supplied by the Ministry free of charge to owners of pigs in cases suitable for the

adoption of this method of preventing the spread of disease to apparently healthy pigs on premises where Swine Fever has broken out. The method is only relatively inexpensive, and its value depends upon the conditions under which it can be applied in practice. The Ministry has found, however, as the result of experience, that owing to the difficulty of getting in touch with outbreaks before infection has made considerable inroads amongst the stock, successful results in connection with preventive treatment are greatly interfered with. Having regard to this and to the necessity for economy, it is considered advisable to discontinue serum treatment until such a time as a safe method of giving permanent, in place of temporary, immunity has been worked out.

The Ministry will be prepared, through its Inspectors, to advise owners of pigs concerned in an outbreak whether their individual cases are more favourable than usual for the application of serum as a temporary preventive, and will also advise them how the serum can be purchased on the market if desired.

The Eradication of Tuberculosis in Cattle.

Australia is the latest convert to a scheme initiated by the Bureau of Animal Industry in U.S.A. and since adopted in Canada for dealing with tuberculosis in cattle. A memorandum from Col. J. A. Gilruth, D.V.Sc., administrator of the northern territory of Australia, explains the accredited herd system, the aim of which is first to get rid of tuberculosis in a pure-bred herd of cattle, and when this has been done to give the owner the advantage of having his herd placed on an official list of tuberculosis-free herds. A herd is declared to be free from tuberculosis when no animal is found to be tuberculous after two annual or three semi-annual tuberculin tests and after thorough physical examination. The subcutaneous test with tuberculin is the one generally practised, but it may be supplemented by the ophthalmic test with tuberculin and the intra-dermal test. There is some evidence to show that the latter method is apparently gaining ground and may in time supersede the subcutaneous test. It is claimed that it relieves the inspector of the drudgery of prolonged observation of temperature. The intra-dermal test causes a reaction in diseased animals, even where repeated subcutaneous injections of tuberculin at short intervals has made them unresponsive to the subcutaneous test; moreover, it can be applied frequently to the same animal without producing immunity to tuberculin. Under this accredited herd system, any animal to be slaughtered is first valued and suitable compensation is awarded. The list of certified tuberculosis-free herds continues to grow in the United States, and from a recent communication from Dr. Frederick Torrance, D.V.Sc., the Veterinary Director-General of Canada, we learn that the system is making good progress also in the Dominion. This country lags behind. The Tuberculosis of Animals Order did good work while it was in operation, but has been suspended since 1914. It is time our authorities gave their attention to its revival or to some alternative scheme such as the one outlined.—*The Lancet*.

Obituary.

Capt C. S. Conder, R.A.V.C.

We deeply regret to report that Captain C. S. Conder, Royal Army Veterinary Corps, died on the 2nd October, 1922, at Neemuch, in India, from a fractured pelvis.

Born in London on the 20th January, 1896, the son of Mr. W. E. Conder, of Pontefract, he was educated at King's School, Pontefract, and graduated at the Royal Veterinary College, London, on the 17th December, 1917.

He was granted a temporary commission in the R.A.V.C. on the 8th January, 1918, and subsequently a regular commission on the 10th July, 1919.

Most of his service was spent on the Indian Establishment, and whilst on that establishment he took part in the Afghan War of 1919 and the Waziristan Campaign of 1919-20.

For his services in Afghan he was mentioned in despatches.

Captain Conder was a promising young officer, well thought of, and his death is greatly deplored.

Mr. Gwynne Thomas, Chichester.

The death occurred suddenly last week of Mr. Gwynne Thomas, a well-known veterinary surgeon of Southgate, Chichester. Mr. Thomas was proceeding from Bognor to Chichester on his motor-cycle when, on reaching Colworth, he was taken suddenly ill and was carried in a state of collapse into the Nelson Arms, where he expired before medical assistance arrived. Mr. Thomas had suffered from a heart affection for some time, and he had a bad attack a week or two ago. The body was removed to Chichester in the motor ambulance. Mr. Thomas, who was highly respected in the city and had a large practice, is survived by Mrs. Thomas. The deceased gentleman served during the war in the R.A.V.C.

Licensed Horses and Soundness.

Is the Horse Breeding Act working as satisfactorily as desirable? The question, says the *North British Agriculturist*, is prompted by a perusal of the report of last week's meeting of the Council of the Clydesdale Horse Society. It would appear, that in answer to a communication from the Board of Agriculture, it was decided that a conference between representatives of the Council and the Board be held "regarding the operations of the Horse Breeding Act," it being understood that the question of the best means to be adopted for restriction on the export of unsound stallions should also be discussed. At a later stage of the meeting there was discussed—and rejected—a proposal that the produce of stallions condemned under the Act for "shivering" be not admitted to the Stud Book. All this would suggest that everything is not quite satisfactory. The fact is, reputable men in the Clydesdale breeding business quite frankly declare that the Horse Breeding Act is not realising what was expected of it. That is to say, it is not yet an effective means of eliminating unsound stallions. Men who profess to know state that there are more foals in the country by horses that have been "turned down" than by stallions that have received the hall mark of soundness under the Act. Moreover, there are also those who seem to be dissatisfied with the system of inspection. Obviously, the

case of a horse turned down on a first examination, being passed on an appeal, may create an impression in the mind of some other owner, who did not appeal, that he has probably been done an injustice. We note that the Secretary of the Clydesdale Horse Society has put the position this way:—"The time is not yet when it can be accepted as certain that all licensed horses are sound, and the doubt arises whether all unlicensed horses are therefore to be regarded as unsound. Here there is a field for inquiry."

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.
All correspondence must bear the name and address of the contributor for publication.
The Editor does not hold himself responsible for the opinions of his correspondents.

The R.C.V.S. Council.

Sir,—From time to time one has heard complaints that the Council of the R.C.V.S. is not truly representative of the profession, and particularly of the country practitioner, and a desire is frequently expressed that we should adopt a system of district representation. This cannot be effected under our present constitution. I have so far failed to find any member who can suggest a practicable remedy (if such be needed) which could be utilised at the present time without alteration of our constitution and further expense to the College.

I express no opinion as to whether these complaints are justified or not, nor as to the desirability of district representation, but I suggest that the whole subject might be thoroughly enquired into and reported upon by the N.V.M.A., for it is through the medium of the N.V.M.A. that we can gain the nearest approach to district representation that is attainable at the present time.

I should be glad if your readers would discuss this matter in your columns and perhaps suggest some workable scheme.—Yours faithfully, G. H. LIVESEY.

Brightlingsea, Essex, November 9th.

Fasting Powers of Newly-born Calf.

Sir,—Have any of your readers any idea as to the possible length of time a newly-born calf can fast?

I have a client, for whose veracity I can vouch, who had a cow calve "twins" in a lone ground some way from home. She was fetched home with one calf on October 1st; the other calf was missed and not found till October 11th (ten days); it was then, of course, very weak, but has since flourished, and is now quite a good specimen, and in excellent condition. Perhaps this may interest others.—Yours faithfully, J. R. BAXTER, M.R.C.V.S.

Downington House, Lechlade, Glos., November 6th, 1922.

The Editor begs to acknowledge the receipt of the following:—

Communications from W. M. Scott, Esq., and J. Wright Conchie, Esq.

West of Scotland V.M.A. Meeting report, from G. W. Weir, Esq., Hon. Secretary.

Diseases of Animals Acts, 1894 to 1914. Summary of Returns.

Period.	Rabies. Cases Confirmed. Dogs.	Rabies. Cases Confirmed. Other Animals.	Anthrax. Outbreaks confirmed.	Anthrax. Animals attacked.	Foot-and-Mouth Disease. Outbreaks confirmed.	Foot-and-Mouth Disease. Animals slaughtered or diseased as exposed to infection.	Glanders (including Farcy).* Outbreaks reported by the Local Authorities.	Glanders (including Farcy).* Animals attacked.	Parasitic Mange.* Outbreaks reported by the Local Authorities.	Parasitic Mange.* Animals attacked.	Sheep Scab. Outbreaks reported by the Local Authorities.	Swine Fever. Outbreaks confirmed.	Swine Fever. Swine slaughtered as diseased or exposed to infection
GT. BRITAIN.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Week ended 4th Nov., 1922 ...	...	...	14	15	5	124	...	...	7	7	11	40	19
Corresponding Week in 1921	...	...	9	9	...	...	...	...	8	12	8	26	15
Corresponding Week in 1920	1	...	12	13	2	303	1	3	28	38	13	23	12
Corresponding Week in 1919	...	...	9	9	10	638	1	1	41	52	2	46	31
Total for 44 weeks, 1922 ...	1	...	430	490	1133	55229	4	4	903	1278	480	1078	413
Corresponding period in 1921	22	1	419	535	43	2958	11	44	1853	2826	444	1059	394
Corresponding period in 1920	29	...	355	425	77	10160	12	21	3250	5332	342	1610	657
Corresponding period in 1919	146	5	185	242	59	2400	22	55	4330	8595	268	1963	921

NOTE.—The figures for the current year are approximate only. *Excluding outbreaks in Army horses.

IRELAND.													
Week ended 4th Nov., 1922 ...	...	...	...	...	...	...	...	...	Outbreaks ...	7	2	8
Corresponding Week in 1921 ...	...	...	...	...	...	...	...	...	1	1	4	2
Corresponding Week in 1920 ...	...	...	...	...	...	...	...	...	1	4	...	...
Corresponding Week in 1919 ...	...	...	...	...	...	...	...	...	2	3	...	...
Total for 44 weeks, 1922	1	1	...	...	...	...	...	...	69	178	203	1157
Corresponding period in 1921 ...	1	1	7	77	...	...	...	...	71	229	101	531
Corresponding period in 1920 ...	1	1	...	...	1	3	90	284	12	34		
Corresponding period in 1919 ...	...	...	...	...	1	1	132	224	30	93		

NOTE.—The figures for the current year are approximate only.